



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786)315-2590 F (786) 31525-99

www.miamidade.gov/economy

GAF

1361 Alps Road
Wayne, NJ 07470

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: : GAF Ruberoid® Modified Bitumen Roof System for Lightweight Concrete Decks

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 12-0509.01 and consists of pages 1 through 39.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 13-0409.07
Expiration Date: 11/06/14
Approval Date: 09/26/13
Page 1 of 39

ROOFING SYSTEM APPROVAL

| | |
|--------------------------------|----------------------|
| Category: | Roofing |
| Sub-Category: | Modified Bitumen |
| Material: | APP/SBS |
| Deck Type: | Lightweight Concrete |
| Maximum Design Pressure | -112.5 psf |

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

| Product | Dimensions | Test Specification | Product Description |
|--|--------------------------|---------------------------|---|
| GAFGLAS [®] Ply 4 | 39.37" (1 meter) Wide | ASTM D2178 | Type IV asphalt impregnated glass felt with asphalt coating. |
| Tri-Ply [®] Ply 4 | 39.37" (1 meter) Wide | ASTM D2178 | Type IV asphalt impregnated glass felt with asphalt coating. |
| GAFGLAS [®] FlexPly [™] 6 | 39.37" (1 meter) Wide | ASTM D2178 | Type VI asphalt impregnated glass felt with asphalt coating. |
| GAFGLAS [®] #75 Base Sheet | 39.37" (1 meter) Wide | ASTM D4601 | Type II, Asphalt impregnated and coated glass mat base sheet. |
| Tri-Ply [®] #75 Base Sheet | 39.37" (1 meter) Wide | ASTM D4601 | Type II Asphalt impregnated and coated glass mat base sheet. |
| GAFGLAS [®] #80 Ultima [™] Base Sheet | 39.37" (1 meter) Wide | ASTM D4601 | Type II, Asphalt impregnated and coated, fiberglass base sheet. |
| GAFGLAS [®] Stratavent [®] Eliminator [™] Perforated Venting Base Sheet | 39.37" (1 meter) Wide | ASTM D4897 | Fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating with factory perforations. |
| GAFGLAS [®] Stratavent [®] Eliminator [™] Nailable Venting Base Sheet | 39.37" (1 meter) Wide | ASTM D4897 | A nailable, fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating. |
| GAFGLAS [®] Mineral Surfaced Cap Sheet | 39.37" (1 meter) Wide | ASTM D3909 | Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules. |
| Tri-Ply [®] Mineral Surfaced Cap Sheet | 39.37" (1 meter) Wide | ASTM D3909 | Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules. |
| GAFGLAS [®] EnergyCap [™] BUR Mineral Surface Cap Sheet | 39.37" (1 meter) Wide | ASTM D3909 | Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules with factory applied EnergyCote [™] |
| Ruberoid [®] SBS Heat-Weld [™] 25 | 1 meter (39.37") Wide | ASTM D6163 | SBS modified asphalt base sheet reinforce with a glass fiber mat. |
| Ruberoid [®] SBS Heat-Weld [™] Smooth | 1 meter (39.37") Wide | ASTM D6164 | Non-Woven Polyester mat coated with polymer modified asphalt and smooth surfaced. |
| Ruberoid [®] SBS Heat-Weld [™] Granule | 1 meter (39.37") Wide | ASTM D6164 | Non-Woven Polyester mat coated with polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid [®] SBS Heat-Weld [™] 170 FR | 1 meter (39.37") Wide | ASTM D6164 | Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules. |



| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|---|--------------------------|----------------------------------|---|
| Ruberoid® SBS Heat-Weld™ Plus | 1 meter (39.37") Wide | ASTM D6164 | Non-Woven Polyester mat coated with polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid® SBS Heat-Weld™ Plus FR | 1 meter (39.37") Wide | ASTM D6164 | Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR | 1 meter (39.37") Wide | ASTM D6164 | Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules and with factory applied EnergyCote. |
| Ruberoid® Torch Smooth | 39.37" (1 meter) Wide | ASTM D6222 | Non-Woven Polyester mat coated with APP modified asphalt and smooth surfaced. |
| Tri-Ply® TP-4 | 39.37" (1 meter) Wide | ASTM D6222 | Non-Woven Polyester mat coated with APP modified asphalt and smooth surfaced. |
| Ruberoid® Torch Granule | 39.37" (1 meter) Wide | ASTM D6222 | Non-Woven Polyester mat coated with APP modified asphalt and surfaced with mineral granules. |
| Ruberoid® Torch 180 | 39.37" (1 meter) Wide | ASTM D6222 | Non-Woven Polyester mat coated with APP modified asphalt and surfaced with mineral granules. |
| RoofMatch™ APP Modified Granular | 107 sq. ft. (9.9 m2) | ASTM D6222 | Non-Woven polyester mat coated with polymer modified asphalt and surfaced with colored mineral granules. |
| Tri-Ply® TP-4G | 39.37" (1 meter) Wide | ASTM D6222 | Non-Woven Polyester mat coated with APP modified asphalt and surfaced with mineral granules. |
| Ruberoid® Torch FR | 39.37" (1 meter) Wide | ASTM D6222 | Non-Woven polyester mat coated with fire retardant polymer modified asphalt surfaced with mineral granules. |
| Ruberoid® EnergyCap™ Torch Plus FR | 39.37" (1 meter) Wide | ASTM D6222 | APP modified cap membrane with a torch grade bottom surface and a mineral granular top surface coated with factory applied EnergyCote™. |
| Ruberoid® EnergyCap™ Torch Granule FR | 39.37" (1 meter) Wide | ASTM D6222 | APP modified cap membrane with a torch grade bottom surface and a mineral granular top surface coated with factory applied EnergyCote™. |
| Ruberoid® 20 | 39.37" (1 meter) Wide | ASTM D6163 | SBS modified asphalt base sheet reinforce with a glass fiber mat. |
| Ruberoid® 30 | 39.37" (1 meter) Wide | ASTM D6163 | Non-Woven fiberglass mat coated with polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid® 30 FR | 39.37" (1 meter) Wide | ASTM D6163 | Non-Woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules. |

| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|---|--------------------------|---------------------------|--|
| Ruberoid® Mop Granule | 39.37" (1 meter) Wide | ASTM D6164 | Non-Woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules. |
| Tri-Ply® SBS Modified Bitumen Membrane | 39.37" (1 meter) Wide | ASTM D6164 | Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules. |
| Roof Match™ SBS Modified Granular | 107 sq. ft. (9.9 m2) | ASTM D6164 | Non-Woven polyester mat coated with polymer modified asphalt and surfaced with colored mineral granules. |
| Intec Flex PRF | 39.37" (1 meter) Wide | ASTM D6164 | Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid® Mop Smooth | 39.37" (1 meter) Wide | ASTM D6164 | Non-Woven polyester mat coated with polymer-modified asphalt and smooth surfaced. |
| Ruberoid® Mop Smooth 1.5 | 39.37" (1 meter) Wide | ASTM D6164 | Non-Woven polyester mat coated with polymer-modified asphalt and smooth surfaced. |
| Ruberoid® Mop Plus Smooth | 39.37" (1 meter) Wide | ASTM D6164 | Non-Woven polyester mat coated with polymer-modified asphalt and smooth surfaced. |
| Ruberoid® Mop Plus | 39.37" (1 meter) Wide | ASTM D6164 | Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid® Mop FR | 39.37" (1 meter) Wide | ASTM D6164 | Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid® EnergyCap™ Mop FR | 39.37" (1 meter) Wide | ASTM D6164 | Non-Woven Polyester mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules and with factory applied EnergyCote™. |
| Ruberoid® Mop 170 FR | 39.37" (1 meter) Wide | ASTM D6164 | Non-Woven polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid® Dual Smooth | 39.37" (1 meter) Wide | ASTM D6162 | Fiberglass/polyester/composite mat that is coated with SBS polymer-modified asphalt and is smooth-surfaced for use only as a base/ply sheet. |
| Ruberoid® Dual FR | 39.37" (1 meter) Wide | ASTM D6162 | Non-woven polyester and fiberglass mat coated with fire retardant, polymer-modified asphalt and surfaced with mineral granules. |
| Ruberoid® EnergyCap™ 30 FR SBS Membrane | 39.37" (1 meter) Wide | ASTM D6163 | Non-woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules and with factory applied EnergyCote™. |
| Matrix™ 102 SBS Membrane Adhesive | 5 gallons | ASTM D3019 | Cold Applied Modified SEBS Asphalt Adhesive. |

| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|---------------------------------------|--------------------------|----------------------------------|--|
| Topcoat® Elastomeric Roofing Membrane | 1,5 or 55 gallons | ASTM D6083 | An acrylic, water based elastomeric membrane system used to protect various types of roofing surfaces. |
| Topcoat® MB Plus | 5 or 55 gallons | Proprietary | Water based, low VOC primer used to block asphalt bleed-through. |
| Topcoat® Surface Seal SB | 5 gallons | ASTM D6083 | Solvent based sprayable thermoplastic rubber sealant used to protect and restore aged roof surfaces and to increase a roof's reflectivity. |
| Matrix™ 307 Premium Asphalt Primer | 3, 5, 55 gallons | ASTM D41 | Asphalt concrete primer used to promote adhesion of asphalt in built-up roofing. |

APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|--|--|--|
| EnergyGuard™ Polyiso Insulation, | Polyisocyanurate foam insulation | GAF |
| EnergyGuard™ RA Polyiso Insulation | Polyisocyanurate foam insulation | GAF |
| EnergyGuard™ RH Polyiso Insulation | Polyisocyanurate foam insulation | GAF |
| EnergyGuard™ RN Polyiso Insulation | Polyisocyanurate foam insulation | GAF |
| EnergyGuard™ Composite RA Polyiso Insulation | Polyisocyanurate foam insulation with high density fiberboard or perlite insulation. | GAF |
| EnergyGuard™ Perlite Roof Insulation | Perlite insulation board. | GAF |
| EnergyGuard™ Perlite Recover Board | Perlite insulation board. | GAF |
| DensDeck® Roof Board | Gypsum board | Georgia-Pacific Gypsum LLC |
| Securock® Gypsum-Fiber Roof Board | High Density Fire Resistant Insulation Boards | United States Gypsum Corp. |

APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|------------------------|-------------------------------------|---|------------------------------------|--|
| 1. | Drill-Tec™ #12 Fastener | Insulation fastener and Base Ply | various | GAF |
| 2. | Drill-Tec™ #14 Fastener | Insulation fastener and Base Ply | various | GAF |
| 3. | Drill-Tec™ Base Sheet Fastener | Base sheet fastening assembly. | various | GAF |
| 4. | Drill-Tec™ Base Sheet Fastener E | Base sheet fastening assembly. | various | GAF |
| 5. | Drill-Tec™ AccuTrac® Flat Plate | Square Galvalume plates. | 3" | GAF |
| 6. | Drill-Tec™ AccuTrac® Recessed Plate | Square Galvalume plates. | 3" | GAF |
| 7. | Drill-Tec™ 3" Steel Plates | Square or Round Galvalume® coated steel plates | 3" | GAF |
| 8. | Drill-Tec™ Locking Impact Nail | Base sheet fastener with integrated Plate. | 1.8" long w/ 2.7" dia. plate | GAF |
| 9. | Drill-Tec™ CD-10 | Insulation fastener and Base Ply fastener for concrete decks. | various | GAF |
| 10. | Drill-Tec™ 2" Barbed Metal Plate | Base sheet fastener. | 2" | GAF |

EVIDENCE SUBMITTED:

| <u>Test Agency/Identifier</u> | <u>Name</u> | <u>Report</u> | <u>Date</u> |
|--------------------------------------|--------------------|----------------------|--------------------|
| Factory Mutual Research Corp. | FMRC 4470 | 0D0A8.AM | 07/09/97 |
| | FMRC 4470 | 2B8A4.AM | 07/02/97 |
| | FMRC 4470 | 3005640 | 11/09/00 |
| | FMRC 4470 | 3006845 | 10/17/00 |
| | FMRC 4470 | 3005175 | 05/23/00 |
| | FMRC 4470 | 3005177 | 05/19/00 |
| | FMRC 4470 | 3007500 | 06/15/00 |
| | FMRC 4470 | 3008178 | 12/27/00 |
| | FMRC 4470 | 1B9A8.AM | 09/04/97 |
| | FMRC 4470 | 3D4Q2.AM | 04/30/97 |
| | FMRC 4470 | 3017250 | 04/05/04 |
| | FMRC 4470 | 3041005 | 05/31/11 |
| | FMRC 4470 | 3042887 | 11/14/11 |
| | FMRC 4470 | 3014547 | 05/22/03 |



EVIDENCE SUBMITTED: (CONTINUED)

| <u>Test Agency/Identifier</u> | <u>Name</u> | <u>Report</u> | <u>Date</u> |
|--|-------------|-------------------|-------------|
| | FMRC 4470 | 3036980 | 08/14/09 |
| | FMRC 4470 | 3029832 | 05/11/07 |
| | FMRC 4470 | 3022508 | 07/20/05 |
| Independent Roof Testing & Consulting of South Florida | TAS 114-J | No.00001 | 03/30/00 |
| | TAS 114-J | No.00002 | 03/30/00 |
| | TAS 114 | 04-009 | 01/26/04 |
| Exterior Research & Design, LLC | TAS 114 | 4483.04.97-1 | 06/06/97 |
| | TAS 114 | 4674.11.01-1 | 11/21/01 |
| Trinity ERD | ASTM D6163 | G6850.08.08 | 08/29/08 |
| | ASTM D6862 | C8500SC.11.07 | 11/30/07 |
| | ASTM D4601 | G34140.04.11-4 | 04/25/11 |
| | ASTM D4879 | G34140.04.11-5 | 04/25/11 |
| | ASTM D3939 | G30250.02.10-3-R1 | 02/15/11 |
| | ASTM D6164 | G6850.08.08-R1 | 04/14/11 |
| | ASTM D6222 | G30250.02.10-2 | 02/12/10 |
| | ASTM D6222 | G6850.10.08 | 10/06/08 |
| | ASTM D6222 | G6850.11.08 | 11/05/08 |
| | ASTM D6163 | G34140.04.11-2 | 04/29/11 |
| | ASTM D6164 | G31360.03.10 | 04/08/10 |
| | ASTM D6164 | G33470.01.11 | 01/19/11 |
| | ASTM D6222 | G40620.07-12-2 | 07/17/12 |
| | ASTM D 3909 | G6850.08.07-1 | 08/13/07 |
| Underwriters Laboratories, Inc. | UL 790 | R1306 | 07/22/13 |
| Atlantic & Caribbean Roof Consulting, LLC | TAS 114-J | 06-044 | 11/16/06 |
| | TAS 114-J | 06-048 | 12/21/06 |
| | TAS 114-J | 06-049 | 12/22/06 |
| | TAS 114-J | 12-015 | 04/24/12 |
| PRI Construction Materials Technologies LLC. | ASTM D2178 | GAF-314-02-01 | 08/23/11 |
| | ASTM D2178 | GAF-315-02-01 | 08/23/11 |
| | ASTM D6083 | GAF-209-211-02-01 | 05/05/09 |
| | ASTM 1970 | GAF-328-02-01 | 03/03/11 |
| | ASTM 1970 | GAF-344-02-01 | 04/23/12 |
| | ASTM 1970 | GAF-275-02-01 | 11/11/11 |
| | ASTM 1970 | GAF-238-02-01 | 03/03/10 |
| | ASTM D6083 | GAF-245-02-01 | 06/10/10 |
| | ASTM D6083 | GAF-084-02-01 | 07/08/05 |
| Momentum Technologies, Inc. | ASTM D6162 | AX04C9A | 06/05/09 |
| | ASTM D6083 | EX14A3A | 02/26/04 |
| Florida Testing Engineering & Consulting Inc. | TAS 114-J | 08-050187 | 04/28/08 |
| | TAS 114-J | 08-050186 | 10/14/08 |
| | TAS 114-D | 08-070080 | 10/30/08 |
| | TAS 114-J | 08-070122 | 10/30/08 |
| | TAS 114-J | 08-070127 | 10/14/08 |
| | TAS 114-J | GL0809-02JR | 10/30/08 |

APPROVED ASSEMBLIES

Membrane Type: APP/SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(1): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations shall apply.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
Or
Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|--|-----------------------------------|-------------------------------------|
| EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.4" thick | N/A | N/A |
| EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ Polyiso Insulation, Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RN Minimum 1½" thick | N/A | N/A |
| EnergyGuard™ RA Polyiso Insulation Minimum 1¾" thick | N/A | N/A |
| EnergyGuard™ Perlite Roof Insulation, EnergyGuard™ Perlite Recover Board, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum ½" thick | N/A | N/A |

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lb. s. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

- Base Sheet: One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth, adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lb. s./sq. ± 15% see General Limitation #4.
- Or
- One ply of GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.
- Ply Sheet: (Optional, required if used with GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Dual Smooth in an approved asphalt at an application rate of 20-40 lb. s./sq.
- Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.
- Or
- One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.
- or
- One or more plies Ruberoid® Dual FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular or Intec Flex PRF applied according to manufacturer's application instructions.
- or
- GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in an approved asphalt at an application rate of 20-40 lb. s./sq. applied according to manufacturer's application instructions.
- Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
 2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
 3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
- Maximum Design Pressure: -45 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(2): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations shall apply.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
Or
Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft2 |
|--|---|---------------------------------|
| EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.4" thick | N/A | N/A |
| EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1½" thick | N/A | N/A |
| EnergyGuard™ RA Polyiso Insulation Minimum 1¾" thick | N/A | N/A |
| EnergyGuard™ Perlite Roof Insulation, EnergyGuard™ Perlite Recover Board, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum ½" thick | N/A | N/A |

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lb. s. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Base Sheet: One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth, adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lb. s./sq. See General Limitation #4.

Or

GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.

Ply Sheet: (Optional, required if used with GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth in an approved asphalt at an application rate of 25 lb. /sq. ± 15%.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.

Or

One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

or

GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in an approved asphalt at an application rate of 20-40 lb. s./sq. applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -45 psf. (See General Limitation #7)

Membrane Type: APP/SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(3): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations shall apply.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|--|---|--|
| EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1½" thick | N/A | N/A |
| EnergyGuard™ Perlite Roof Insulation, EnergyGuard™ Perlite Recover Board, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum ½" thick | N/A | N/A |

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lb. s. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Base Sheet: One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lb. s./sq. or adhered in a strip or spot mopping of an approved asphalt; see General Limitation #4.
Or
GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.

Ply Sheet: (Optional, required if used with GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth, in an approved asphalt at an application rate of 20-40 lb. s./sq.

- Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.
- Or
- One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.
- or
- GAFLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in an approved asphalt at an application rate of 20-40 lb. s./sq. applied according to manufacturer's application instructions.
- Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
 2. GAFLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
 3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
- Maximum Design Pressure: -75 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(4): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations shall apply.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® Mop Smooth or Ruberoid® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1½" thick | N/A | N/A |
| EnergyGuard™ Perlite Roof Insulation, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum ½" thick | N/A | N/A |

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lb. s. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Base Sheet: One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lb. s./sq. ± 15%; see General Limitation #4.

Or

GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet laid dry followed by a mopped ply sheet listed below.

Ply Sheet: (Optional, required if used with GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth, in an approved asphalt at an application rate of 25 lb. s./sq. ± 15%.

- Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.
- Or
- One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.
- or
- GAFLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in an approved asphalt at an application rate of 20-40 lb. s./sq. applied according to manufacturer's application instructions.
- Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
 2. GAFLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
 3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
- Maximum Design Pressure: -75 psf. (See General Limitation #7)

Membrane Type: SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type D: Base Sheet mechanically fastened through one or more layers of loose laid insulation.

All General and System Limitations shall apply.

Separator Sheet Required between the rigid insulation boards and the lightweight insulating concrete deck. Install one of the following products loose laid: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet.

One or more layers of any of the following insulations.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft2 |
|--|---|---------------------------------|
| EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.4" thick | N/A | N/A |
| EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ Polyiso RH Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1½" thick | N/A | N/A |
| EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1¾" thick | N/A | N/A |
| EnergyGuard™ Perlite Roof Insulation, EnergyGuard™ Perlite Recover Board, EnergyGuard™ Perlite, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum ½" thick | N/A | N/A |
| Base Sheet: | Install one ply of Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth mechanically fastened through insulation as described below. | |
| Fasteners: | Drill-Tec™ #12 Fastener for steel, Drill-Tec™ #14 Fastener for structural concrete with Drill-Tec™ 2" Barbed metal plate. Fasteners and Plates are placed through 4" wide bottom lap spaced at 12" o.c., lap is then torched sealed. | |
| Ply Sheet: (Optional) | One ply Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth torch applied according to manufacturer's application instructions. | |
| Membrane: | One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions. | |

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS[®] Mineral Surfaced Cap Sheet, Tri-Ply[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -45 psf. (See General Limitation #7)

Membrane Type: APP/SBS Heat Weld
Deck Type 4: Lightweight Concrete, Non-insulated, (See System Limitations)
Deck Description: Cellular or aggregate lightweight concrete
System Type E(1): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fastening Options: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf, See General Limitation #7)
Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 12" o.c. at the 2" wide side laps and 9" o.c. in three equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf, See General Limitation #7)
Drill-Tec® Locking Impact Nail at a fastener spacing of 9" o.c. at the 4" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -60 psf, See General Limitation #7)
Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75 psf, See General Limitation #7)

Ply Sheet: One ply Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™
(Optional) Smooth torch applied according to manufacturer's application instructions.

Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS[®] Mineral Surfaced Cap Sheet, Tri-Ply[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: See Fastening Options Above

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See System Limitation)

Deck Description: Cellular or aggregate lightweight concrete

System Type E(2): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fastening Options: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

(Maximum Design Pressure -45 psf, See General Limitation #7)

Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 12" o.c. at the 2" wide side laps and 9" o.c. in three equally spaced rows in the field of the base sheet.

(Maximum Design Pressure -45 psf, See General Limitation #7)

Drill-Tec® Locking Impact Nail at a fastener spacing of 9" o.c. at the 4" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

(Maximum Design Pressure -60 psf, See General Limitation #7)

Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.

(Maximum Design Pressure -75 psf, See General Limitation #7)

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, (Optional) GAFGLAS® # 75 Base Sheet, Tri-Ply® #75 Base Sheet or GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

- Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.
- Or
- One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.
- Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
 2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
 3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
- Maximum Design Pressure: See Fastening Options Above

Membrane Type: APP/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated, (See System Limitation)

Deck Description: MEARLCRETE® Cellular Concrete LLC Lightweight Insulating concrete

System Type E(3): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional, required when using Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet or GAFGLAS® #80 Ultima™ Base Sheet, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.

Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: -52.5 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: MEARLCRETE® Cellular Concrete LLC Lightweight Insulating Concrete

System Type E(4): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fasteners E at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, (Optional) GAFGLAS® # 75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -52.5 psf. (See General Limitation #7)



Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizell Cellular lightweight concrete over structural concrete min 2500 psi or min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 6 ft o.c. attached with 5/8" puddle welds and washers spaced max. 6 in. o.c. at every flute. Side laps secured with #10 TEK screws fastened at a max. of 18 in o.c.

System Type E(5): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E spaced one row 7" o.c. in the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the sheet.

Ply Sheet: One or more plies of Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth torched applied according to manufacturer's application instructions.
(Optional) Or
One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth, Ruberoid® Dual Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS[®] Mineral Surfaced Cap Sheet, Tri-Ply[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -82.5 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizell Cellular lightweight concrete over structural concrete min 2500 psi or min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 5 ft o.c. attached with 5/8" puddle welds and washers spaced max. 6 in. o.c. at every flute. Side laps secured with #10 TEK screws fastened at a max. of 24 in o.c.

System Type E(6): Base sheet mechanically attached.

All General and System Limitations shall apply.

Fire Barrier: Fireboard min 1/4" DensDeck® Roof Board or minimum 1/4" Securock® Gypsum-Fiber Roof Board loose laid.
(Optional)

Base Sheet: Install one ply of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus, Ruberoid® Mop Granule (Inverted) with granular surfaced face down against the deck with 4" heat welded side lap, mechanically fastened as described below.

Fasteners: Drill-Tec™ #12 Fastener for steel, Drill-Tec™ #14 Fastener for structural concrete, with Drill-Tec™ 3" steel plate, Drill-Tec™ AccuTrac® Recessed Plate or Drill-Tec™ AccuTrac® Flat Plate fastened 12" o.c. in the 4" heat welded side lap and screwed through the lightweight concrete into the structural deck. With two additional rows of fasteners spaced 12" o.c. in the field of the sheet.

Ply Sheet: Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth torched applied, Ruberoid® 20, Ruberoid® Mop Smooth Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus or Ruberoid® Dual Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
(Optional)

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS[®] Mineral Surfaced Cap Sheet, Tri-Ply[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -97.5 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Celcore Lightweight Insulating Concrete

System Type E(7): Base sheet mechanically attached.

Deck : Structural concrete 2500 psi or Min. 22 ga., Type B steel decking over ¼" thick steel supports spaced max. 6 ft o.c. attached 6" o.c. using min. 5/8" diameter puddle welds with washers or Traxx/5 fasteners. Deck side laps are attached 24" o.c. using Traxx/1 fasteners. Steel deck is covered with a Celcore lightweight concrete pour consisting of a 1/8" slurry coat, min. 2" thick Holey Board and a min. 2" thick top coat.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E and plates fastened at a spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, (Optional) Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus or Ruberoid® Dual Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.

Or

One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS[®] Mineral Surfaced Cap Sheet, Tri-Ply[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -60 psf. (See General Limitation #7)

Membrane Type: SBS Heat-Weld™

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Cellular or aggregate lightweight concrete

System Type E(8): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

(Maximum Design Pressure -45 psf, See General Limitation #7)

Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

(Maximum Design Pressure -75 psf, See General Limitation #7)

Ply Sheet: Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth
(Optional) torched applied according to manufacturer's application instructions.

Membrane: One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: See Fastening Options Above

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizel Lightweight Insulating Concrete with min. compressive strength of 250 psi, 1/4" thick slurry of Elastizel Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb. was firmly pressed over the slurry. Elastizel lightweight insulating concrete was poured over the EPS Board to a thickness of 2" minimum.

System Type E(9): Base sheet mechanically attached.

Deck : Structural concrete 2500 psi or 22 gauge vented metal deck, 1.5" type "B" mechanically fastened to steel channel-framing joists. The Joists were spaced at 6' o.c. The metal deck was fastened with #5 Tek screws at 6" o.c. one fastener in each flute of the metal deck along the joist and at 6" o.c. along the side laps with #12-24 self-drilling screws.

All General and System Limitations shall apply.

Fire Barrier: Fireboard min 1/4" DensDeck® Roof Board or 1/4" Securock® Gypsum-Fiber Roof Board loose laid.

Base Sheet: Install one ply of GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus mechanically fastened as described below.

Fasteners: Base Sheet fastened with Drill-Tec™ #14 Fastener, Drill-Tec™ CD-10 for structural concrete or Drill-Tec™ #12 Fasteners and Drill-Tec™ 3" Steel Plate, Drill-Tec™ 3" Standard Steel Plate or Drill-Tec™ AccuTrac® Recessed Plate into the steel deck at 12" o.c. in the 4" side laps and two staggered rows in the field of the sheet spaced 12" o.c.

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus or Ruberoid® Dual Smooth, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.

Or

One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS[®] Mineral Surfaced Cap Sheet, Tri-Ply[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -67.5 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizel Lightweight Insulating Concrete with min. compressive strength of 250 psi, ¼” thick slurry of Elastizel Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb. was firmly pressed over the slurry. Elastizel lightweight insulating concrete was poured over the EPS Board to a thickness of 2” minimum.

System Type E(10):Base sheet mechanically attached.

Deck : Structural concrete 2500 psi or 22 gauge vented metal deck, 1.5” type “B” mechanically fastened to steel channel-framing joists. The Joists were spaced at 6’ o.c. The metal deck was fastened with #5 Tek screws at 6” o.c. one fastener in each flute of the metal deck along the joist and at 6” o.c. along the side laps with #12-24 self-drilling screws.

All General and System Limitations shall apply.

Fire Barrier: Fireboard min ¼" DensDeck® Roof Board or ¼" Securock® Gypsum-Fiber Roof
(Optional) Board loose laid.

Base Sheet: Install one ply of Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus, Ruberoid® Mop Granule (Inverted) or Ruberoid® Heat-Weld™ Smooth mechanically fastened as described below.

Fasteners: Base Sheet fastened with Drill-Tec™ #14 Fasteners and Drill-Tec™ 2” Double Barbed steel plates fastened through Elastizel Lightweight Insulating Concrete deck in to the steel or structural concrete deck at 6” o.c. in the 4” side laps, followed by heat welding the laps.

Ply Sheet: Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth
(Optional) torched applied according to manufacturer's application instructions.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate or 1 gallon/sq.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS[®] Mineral Surfaced Cap Sheet, Tri-Ply[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -52.5 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Celcore Lightweight Insulating Concrete with min. compressive strength of 300 psi 1/4" thick slurry of Celcore Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb. was firmly pressed over the slurry. Celcore Lightweight Insulating Concrete was poured over the EPS Board to a thickness of 2" minimum.

System Type E(11): Base sheet mechanically attached.

Deck : Min. 2500 psi Structural concrete or 20 gauge vented metal deck, 1.5" type B, attached to steel channel-framing joists. The joists were spaced at 6'-6" o.c. The metal deck was fastened with 5/8" puddle welds at 6" o.c. one 5/8" weld in each flute of the metal deck along the joist and at 6" o.c. along the side laps with # 10 self-drilling screws.

All General and System Limitations shall apply.

Fire Barrier: Fireboard min 1/4" DensDeck® Roof Board or 1/4" Securock® Gypsum-Fiber Roof Board loose laid.

Base Sheet: Install one ply of Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus, Ruberoid® Mop Granule (Inverted) or Ruberoid® Heat-Weld™ Smooth mechanically fastened as described below.

Fasteners: Base Sheet fastened with Drill-Tec™ #14 Fasteners and 2" Drill-Tec™ Double Barbed steel plates fastened through Celcore Lightweight Insulating Concrete deck in to the structural concrete or steel deck at 6" o.c. in the 4" side laps, followed by heat welding the 4" laps.

Ply Sheet: Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth torched applied according to manufacturer's application instructions.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq. or Matrix 102 at an application rate of 1 to 2 gallons/sq.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS[®] Mineral Surfaced Cap Sheet, Tri-Ply[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -45 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Mearlcrete Lightweight Insulating Concrete with min. compressive strength of 750 psi. Minimum 2" thick slurry of Mearlcrete Lightweight Insulating Concrete was poured over the deck.

System Type E(12): Base sheet mechanically attached.

Deck : 22 gauge vented metal deck, 1.5" type "B", 33 ksi, mechanically fastened to supports. The supports were spaced at 6' o.c. The metal deck was fastened with 5/8" puddle weld at 6" o.c. (one weld in each flute of the metal deck) and at 6" o.c. along the side laps with #10 self-drilling screws.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet or GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet.

Fasteners: Drill-Tec™ Base Sheet Fasteners or Drill-Tec™ Base Sheet Fastener E at a fastener spacing of 7" o.c. in the 4" wide side laps and two staggered rows in the field of the sheet spaced 7" o.c.

Ply Sheet: (Optional, required if used with GAFGLAS® Mineral Surface Cap Sheet)
One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus or Ruberoid® Dual Smooth, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.

Membrane: One or more plies of Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in an approved asphalt at an application rate 20-40 lb. s./sq.
Or
GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in an approved asphalt at an application rate of 20-40 lb. s./sq. applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -52.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizell (II Special Mix) min 350 psi. mix, with Zell-Crete fibers and Zell-Erator curing sealer over structural concrete 2500 psi or Min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 5 ft o.c. attached with 5/8" puddle welds and washers spaced max. 5 in. o.c. at every flute. Side laps shall be secured with #10 TEK screws fastened at a max. spacing of 15 in. o.c.

System Type F: Base sheet partially adhered.

All General and System Limitations shall apply.

Primed Deck: Deck is primed with Matrix 307 Premium Asphalt Primer.

Base Sheet: Install one ply of GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry over deck.

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, (Optional) Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lb. s./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lb. s./sq. and 300 lb. s./sq. respectively in a flood coat of approved asphalt at 60 lb. s./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -112.5 psf. (See General Limitation #9)

LIGHTWEIGHT CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gauge attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lb. s./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lb. s./sq.

Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.

5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lb. f., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lb. f. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 13-0409.07
Expiration Date: 11/06/14
Approval Date: 09/26/13
Page 39 of 39